

Course: Outdoor Culture and Technology
Instructor: Mr. Thomas Cooper
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Course Duration: Spring, 1 Semester
Blog: <http://walkeroutdoors.blogspot.com>
Wiki: <http://outdoortech.wikispaces.com>
Time: D Period

Course Description: This course is for students who are interested in the outdoors and the technologies that are used to explore our world. Students learn about the satellites that make up our global positional system (GPS), handheld devices, and various mapping technologies that are used by outdoor enthusiasts. A survey of extreme sports, geographic hotspots, traditional cultures, expedition psychology, team dynamics and advances in wilderness medicine, are addressed as they pertain to various milestones in expedition history and the development of climbing, hiking, kayaking, sailing, and surfing technologies.

Prerequisites: Course is open to 10-12th graders who have had success in Biology, History, Technology and English. It is suggested that students have had or are taking the Anatomy and Physiology course.

Course Texts: Students are to read one of the books from the approved reading list. Each student should choose a different category of the outdoors, such as survival, historical, extreme sports, sailing, or kayaking, for example. See the attached information on Book Discussions and Approved Book List. Students will also be reading articles from National Geographic Adventure and Outside Magazines, and short stories from various sources. Handouts of these articles and stories will be provided to students.

Course Objectives

- Students will examine a number of Earth's key geological features, climate, and ecosystems that are used for recreational purposes.
- Students will gain an understanding of the various technologies that are used today to monitor our globe.
- Students will use various GPS units and software to analyze data about our earth and solve common problems experienced by participants of extreme sports and expeditions.
- Students will learn about famous explores in history and how they contributed to our understanding of our world.
- Student will gain an appreciation of the culture experienced by famous explorers.
- Students will learn about the physiology and psychology of individuals who take risks to participate in extreme sports.
- Students will gain an appreciation of how kayaking, climbing, caving, surfing, camping, hiking, and hunting technologies have changed over time.
- Students will gain basic field experience in dealing with adverse situations that may occur while on a trip and be required to administer basic first aid in the wilderness.

Course Outcomes

- Readings: Students will participate in a class discussions on the technologies used in outdoor sports, local culture, and the psychology of the individuals who participate in these extreme sports.
- Global Positioning Systems: Students will learn to use a GPS unit and complete various outdoor exercises in navigation.
- Software: Students will use Google Earth Pro to develop a layer on famous explorers. Also, students will develop an adventure trip using Trimble's Outdoor Adventure Planning Software.
- Wilderness Medicine: Students will be presented with a series of expedition accidents and will be asked to apply problem-based learning techniques in order to devise a rescue plan for the injured individual. Students will create a short film documenting the rescue procedures.
- Outdoor Leadership: Students will be asked to plan a local activity and lead it.
- Research Project: Students will be asked to research various companies who offer outdoor adventure trips and analyze their effects on our environment. Students will discuss the feasibility of such a trip, equipment costs, dangers, and its effect on the local ecology and traditional cultures of the area. Students will also use Movie Maker to create a 3-5 minute promotional video for their expedition.

General Internet Resources

- Men's Journal Adventure - <http://mensjournal.com/adventure/index.html>
- National Geographic Adventure – <http://www.nationalgeographic.com/adventure/>
- Outside Online – <http://outside.away.com/index.html>
- Wilderness and Environmental Medicine Journal - <http://www.wemjournal.org/wmsonline/?request=index-html>
- NOLS Wilderness Medicine Institute - <http://www.nols.edu/wmi/>
- Geocaching - <http://www.geocaching.com/>
- GPS Tutorial at PBS - <http://www.pbs.org/wgbh/nova/longitude/gps.html>

Course Schedule

A Days	B Days	C Days	D Days	E Days	F Days	G Days
Extreme Sports Lecture	Film/Guest Speaker	Project Research or Presentation	Technology Lecture	GPS Exercise Field	Book Discussion	Dropped

7-DAY CYCLE	DESCRIPTION OF CONTENT CLASS TIME	PROJECT DATES
C1	<ul style="list-style-type: none"> • Lecture Topics: Earth's Typology, Climate and Major Ecosystems • Technology Integration: Parts of a GPS Unit • GPS Exercise: Familiar Yourself with Equipment; Find Location of School • Readings: Chpts. 1-3 of Book; Question Set #1 • Website Review: The World Heritage Fund - http://whc.unesco.org/en/about/ 	Project: Develop a Life List; Create a Layer in Google Earth

C2	<ul style="list-style-type: none"> Lecture Topic: History of Cartography Technology Integration: Current Mapping Technology, and Global Positioning Systems GPS Exercise: Setting Up a Geocache Account Readings: Chpts. 4-6 of Book; Question Set #2 Website Review: Broadband Sports - http://www.broadbandsports.com 	
C3	<ul style="list-style-type: none"> Lecture Topic: Famous Explorers and Expeditions Technology Integration: GPS Satellite Network Film: Shackleton's Antarctic Adventure: IMAX GPS Exercise: Finding a Benchmark Readings: Chpts. 7-9 of Book; Questions Set #3 Website Review: The Explorer's Club - http://www.explorers.org/ 	Project: Identify Famous Explorers; Create a PowerPoint Timeline
C4	<ul style="list-style-type: none"> Lecture Topics: Caving Technology, Caving Culture, and World Cave Systems Technology Integration: GPS Satellite Network (cont.) Film: Amazing Caves, IMAX GPS Exercise: Marking Tracks and Setting Waypoints Readings: Chpts. 10-12 of Book; Question Set #4 Website Review: National Geographic, The Congo Trek - http://www.nationalgeographic.com/congotrek/ 	Field Trip: Caving Clinic
C5	<ul style="list-style-type: none"> Lecture Topic: Hiking Technology, Hiking Culture and Noteworthy Trails Systems Technology Integration: Search Engines; YouTube and Sports Sites on the Web Film(s): Trek (or Walking the West) GPS Exercise: Using the GOTO Function; Finding an Easy Cache Readings: Chpts. 13-15 of Book; Question Set #5 Website Review: National Geographic, The Cave Race - http://magma.nationalgeographic.com/ngm/caverace/week1/index.html 	Field Trip: Climbing Gym
C6	<ul style="list-style-type: none"> Lecture Topics: Climbing Technology, Climbing Culture, and Alpine Ecology Technology Integration: Google Earth Pro Software Film: Touching the Void GPS Exercise: Working with the Compass and Altimeter Readings: Chpts. 16-18 of Book; Question Set #6 Website Review: Mountain Zone's Men of Experience - http://www.mountainzone/menofexperience 	Project: Develop a Power Kit for an Outdoor Sport Field Trip: Climbing Outdoors
C7	<ul style="list-style-type: none"> Lecture Topic: Physiology and Psychology of Explorers and Extreme Sportsmen Technology Integration: MS Movie Maker Film: The Science of Risk, IMAX GPS Exercise: Finding an Benchmark (not a disk), or a Confluence Point Readings: Articles on Fear and Risk Behavior Website Review: Oil and Water Project - http://www.oilandwaterproject.org/ 	

C8	<ul style="list-style-type: none"> Lecture Topics: Famous Misadventures and Wilderness Medicine Technology Integration: First Aid Kits and Wilderness Medicine Equipment Guest Speaker: WEMT & Field Rescue Exercise GPS Exercise: Finding a Lost Person Readings: Short Story from Last Breath Website Review: NOLS Wilderness Medicine Institute - http://www.nols.edu/wmi/ and Wilderness and Environmental Medicine Journal - http://www.wemjournal.org/wmsonline/?request=index-html 	Project: Presentation on a Misadventure and NOLS Rescue Methods Field Trip: Rescue and Kennesaw Mt.
C9	<ul style="list-style-type: none"> Lecture Topics: Hunting Technology and Gaming Reserves Technology Integration: Safety Equipment Film: History of Camping; Modern Marvels GPS Exercise: Setting up Your Own Geocache Readings: Short Story from Dangerous Games Website Review: Big Game Hunting Net - http://www.biggamehunt.net/ 	Project: Wilderness Rescue Video
C10	<ul style="list-style-type: none"> Lecture Topics: Boating Technology, River Culture, and River Ecology Technology Integration: Physics and Mechanics of Outdoor Sports Film: Tsang Po Gorge GPS Exercise: Finding a Multi-Cache Readings: Articles on Teenage Explorers Website Review: American Whitewater - http://www.americanwhitewater.org/ 	Field Trip: Kayaking or Climbing Clinic
C11	<ul style="list-style-type: none"> Lecture Topic: Surfing Technology, Surfing Culture, and the Third Reef Technology Integration: Wave Mechanics Film: Riding Giants GPS Exercise: Finding a Multi-Cache (cont.) Readings: Short Story from Return by Water Website Review: Surfline - http://www.surfline.com/home/index.cfm 	Project: Preliminary Expedition Project Due
C12 (Time Permitting)	<ul style="list-style-type: none"> Lecture Topics: Sailing Technology Film: BBC Documentary on Vendee Globe GPS Exercise: Mystery Cache Readings: Short Story from Rough Water: Stories of Survival from the Sea Website Review: International Sailing Federation - http://www.sailing.org/ 	
C13	Final Project Presentations / Final Exams	

- Instructor reserves the right to change the course schedule due to students interests in various extreme sports, or unforeseen school functions.

How students will be evaluated and what percentage will each item be toward the final grade for the course:

Book Discussions	5 pts. ea. (50 pts.)
Movie Discussion	5 pts. ea. (50 pts.)
GPS Field Exercises	10 pts. ea. (100 pts.)
Life List Project	50 pts.
Famous Firsts Project	30 pts.
Expedition Power Kit Project	100 pts.
Wilderness Rescue Video	100 pts.
Expedition Layer in Google Earth	100 pts.
<i>Possible Extra Credit</i>	
<i>Expedition Decorum</i>	<i>10 pts. ea. (30 pts.)</i>
<i>Expedition Leadership</i>	<i>20 pts.</i>
Total	580 pts.

Transformation to a letter grade will be based on the following thresholds:

A	90 – 100 %
B	80 – 89 %
C	70 – 79%
F	70 % and below

All work related to an incomplete must be made up within a semester's time.